

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

The Official Action's objection to the specification is respectfully traversed. The passage in the specification referred to by the Official Action simply states that having one or more specific chemical elements incorporated into the lead-free solder inhibits the occurrence of stress faults, and that this is true even if the lead-free solder has a relatively high tin content. The examples in the introduction describe different percentages of tin. It is thus not true that the description in question is somehow inconsistent with the description in other parts of the specification. Therefore, withdrawal of the objection is respectfully requested.

Claims 1 and 4-11 are pending in this application, with independent Claims 1 and 11 being the only independent claims under consideration.

Independent Claim 1 is directed to a vehicular glazing panel including, *inter alia*, a second electrically conductive component which is joined to a first component by a lead-free solder. The lead-free solder includes tin in an amount that is less than 50% by weight and a mechanical stress modifier, which inhibits the occurrence of a stress fault in the pane of glass in the region of the solder, in the form of bismuth metal and/or antimony metal.

Independent Claim 11 is directed to a method for joining together two or more electrically conductive components that are comprised in a vehicular glazing panel, which includes a pane of glass. The method comprises soldering the two or more electrically conductive components utilizing a lead-free solder that includes tin in an

amount that is less than 50% by weight and a mechanical stress modifier, which inhibits the occurrence of a stress fault in the pane of glass in the region of the solder, in the form of bismuth metal and/or antimony metal.

The Official Action's rejections of Claim 11 under 35 U.S.C. §101 and §112, second paragraph, are obviated by the amendments to Claim 11. Thus, withdrawal of the rejections is respectfully requested.

The Official Action rejects Claims 1 and 11 under 35 U.S.C. §102(b) over Pereira, U.S. Patent No. 6,253,988, and under 35 U.S.C. §102(b) over Sanada, U.S. Patent No. 6,136,230.

Pereira discloses a low temperature solder composition 20 that is "lead-free" except for a small "trace" amount of 0.2% lead by weight (see col. 1, line 46; col. 2, lines 45-47; and col. 3, lines 17-20). In one embodiment, Pereira discloses that the solder composition 20 also contains trace amounts of antimony in the amount of 0.75% by weight as a maximum amount, and bismuth in the amount of 0.25% by weight as a maximum amount (see col. 2, lines 45-65). However, there is no evidence that the mere trace amounts of antimony and bismuth in Pereira's solder composition 20 constitute mechanical stress modifiers which inhibit the occurrence of a stress fault in a pane of glass in the region of the solder. Pereira does not disclose inhibiting the occurrence of a stress fault in the pane of glass in the region of the solder. Pereira discloses that the trace amount of 0.75% by weight of antimony and the trace amount of 0.25% by weight of bismuth are maximum amounts, and that increasing these amounts has harmful effects (see col. 2, line 45 to col. 3, line 10). Thus, there is no evidence that the trace amounts of antimony and bismuth in Pereira's solder composition 20 inhibit the occurrence of a stress fault in a

pane of glass in the region of the solder. Thus, Pereira fails to disclose, in combination with the other claimed features, a lead-free solder including a mechanical stress modifier, which inhibits the occurrence of a stress fault in the pane of glass in the region of the solder, in the form of bismuth and/or antimony, as recited in independent Claim 1, and similarly recited in independent Claim 11. Thus, independent Claims 1 and 11 are patentable over Pereira.

The Official Action acknowledges that Sanada fails to disclose, in combination with the other claimed features, a lead-free solder including tin in an amount that is less than 50% by weight, as now recited in independent Claims 1 and 11. Therefore, independent Claims 1 and 11 are patentable over Sanada.

Thus, withdrawal of the rejections of Claims 1 and 11 over Pereira and Sanada is respectfully requested.

The Official Action, on pages 9 and 10, takes the position with respect to canceled Claim 3 that it would have been obvious to modify the solder disclosed by Sanada to include tin in an amount that is less than 50% by weight, in view of Pereira, Kitajima et al. ("Kitajima"), U.S. Patent No. 6,184,475, or Gonya et al. ("Gonya"), U.S. Patent No. 5,368,814. Applicants respectfully disagree.

Sanada is directed to using a lead-free solder with lead-free glass frit (see col. 45-49). Sanada discloses that using a lead-free solder with glass frit containing lead results in poor heat resistance and wettability of the conductor which reduces the reliability of the electric connection (see col. 1, lines 24-38). Thus, Sanada discourages using a lead-free solder with a glass frit other than lead-free glass frit. Pereira, Kitajima and Gonya fail to disclose a lead-free glass frit. For example, Kitajima and Gonya do not disclose soldering components on glass substrates.

Thus, one skilled in the art would not have looked to these references to modify Sanada. Therefore, it would not have been obvious to modify the solder disclosed by Sanada in view of the disclosures in Pereira, Kitajima and Gonya.

Claims 4-10 are patentable at least by virtue of their dependence from patentable independent Claim 1. Thus, a detailed discussion of the additional distinguishing features recited in these dependent claims is not set forth at this time.

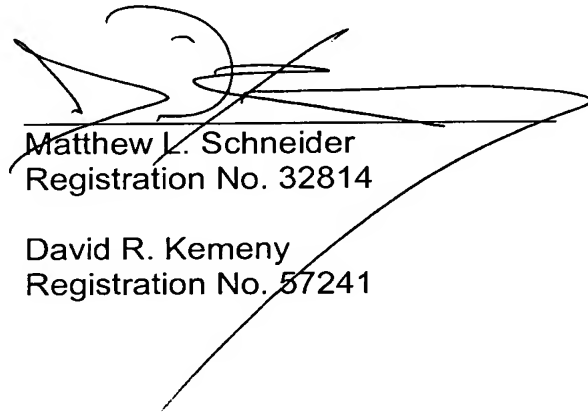
Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

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